

What I claim is:

Claim 1. A bristle consisting of a base end, and a tip end connected to each other by means of a substantially rigid shaft portion wherein said substantially rigid shaft of said bristle has at least one shallow spiral groove along its longitudinal axis and wherein said substantially rigid shaft is sufficiently flexible so that said bristle will twist, bend and rotate on its axis when said base end of said bristle is held in a fixed position on a brush device and vertical and horizontal pressures applied to the tip of said bristle in a brushing motion such that the twisting, bending and rotating of said bristle upon the application of vertical and horizontal pressure on the tip of said bristle causes the tip of said bristle and said substantially rigid shaft of said bristle to become an abrasive device with respect to the surfaces to be cleaned and wherein said twisting, bending and rotating of said bristle increases with the application of increased pressure on the tip of said bristle.

Claim 2. The bristle as claimed in claim 1 wherein the cross-sectional diameter of said spiral groove is approximately 10 to 15 percent of the cross-sectional diameter of said bristle and wherein said at least one spiral groove on said bristle runs either in a clockwise or counterclockwise direction and wherein on an individual bristle said at least one spiral groove runs in

7 clockwise or counter-clockwise direction as desired, to facilitate the removal of plaque and other waste materials during the cleaning process.

*redundant*  
Claim 3. A bristle as claimed in Claim 1 wherein said bristle has at least one spiral groove along said substantially rigid shaft and wherein said groove is of uniform diameter throughout the length of said substantially rigid shaft and wherein  
5 the ratio of the diameter of said bristle to the diameter of said spiral groove is approximately 4:1.

Claim 4. The bristle claimed in claim 1~~x~~ wherein said bristle<sup>is</sup> made of a plastic material and wherein said bristle is of such flexibility as to be capable of bending and rotating on an axis of thirty to ninety degrees when used in scrubbing or cleaning.

Claim 5. A bristle as claimed in claim 1 for use in toothbrushes, said bristle consisting of a base end, and a tip end connected to each other by a substantially rigid shaft portion and wherein said base end of said bristle is maintained in a fixed  
5 position on the head of said toothbrush and wherein said substantially rigid shaft of said bristle has at least one shallow spiral groove along its longitudinal axis and wherein said bristle is capable of standing substantially rigid on the head of said toothbrush but is sufficiently flexible so that said bristle will  
10 twist, bend and rotate on its axis, but remains substantially rigid when vertical and horizontal pressures are applied to the tip of

12 said bristle during brushing and such that the twisting, bending and rotating of said bristle upon the application of vertical and horizontal pressure on the tip of said bristle causes the tip end  
15 of said bristle and substantially rigid shaft of said bristle to act as an abrasive device with respect to the surfaces to be cleaned, and wherein the twisting, bending and abrasiveness of said substantially rigid shaft causes said toothbrush to be a more  
20 horizontal pressure in a back and forth scrubbing motion on the tip of said bristle causes said bristle to twist and rotate in the manner of an agitator of a washing machine, thereby producing fluid cross currents in the saliva and forces the saliva into the spaces in and around the teeth and gums and wherein the twisting and  
25 bending of said shaft of said bristle increases the contacts between said shaft of said bristle and the surface of the teeth and gums so that said groove on said shaft of said bristle acts as an abrasive device to remove foreign particles lodged between and around the teeth and gums.

Claim 6. A brush device for use in cleaning and scrubbing including a bristle receiving body portion having a plurality of substantially rigid bristles disposed therein and wherein said body portion of said device has a plurality of holes adapted for  
5 receiving said bristles and wherein said bristles are arranged in tufts of bristles and wherein each of said bristles has at least one spiral groove along the longitudinal axis of said

8 substantially rigid shaft of said bristle wherein the scrubbing action of said brush device causes said bristle to bend and twist about its axis and to agitate liquid substances which are present in the area to be cleaned and wherein the tips of said bristles and  
12 said substantially rigid shaft of said bristles act as cleaning surfaces and whereby said longitudinal axis having said spiral groove acts as an extended scraping device with respect to the surface to be cleaned.

Claim 7. A toothbrush having a head portion and a handle portion wherein said head portion has a plurality of holes adapted for receiving tufts of bristles in each hole and wherein each tuft consists of not less than ten bristles each of said bristles having  
5 at least one spiral groove along the longitudinal axis of said bristle and wherein upon the application of pressure to the tips of said bristles and use of a scrubbing action thereon said bristle bends and rotates and agitates saliva in the mouth and wherein said tips and said longitudinal axis of said bristles act  
10 as cleaning surfaces with respect to the teeth and gums and whereby said longitudinal axis having said spiral grooves acts as an extended scraping device for the removal of waste materials, including plaque, from the teeth and gums.

Claim 8. A brush device as claimed in claim 7 wherein said at least one spiral groove on said bristle runs either in a clockwise or counter clockwise direction and wherein on an individual bristle  
4 said at least one spiral groove runs clockwise or counterclockwise,

J only, and wherein said bristle when arranged in tufts of bristles  
said at least one spiral groove on said bristle comprising said  
tufts of bristles all run in either a clockwise or counterclockwise  
8 direction.